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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Artcle 36 and Rule 70)

Applicant's or agent's file reference XP12253-PCT	**FOR FURTHER ACTION**	SeeNotificationofTransmittalofInternationalPreliminary Examination Report (Form PCT/IPEA/416)
International application No. **PCT/KR2003/002283**	International filing date*(day/month/year)* **28 OCTOBER 2003 (28.10.2003)**	Priority date *(day/month/year)* . 30 OCTOBER 2002 (30.10.2002)

International Patent Classification (IPC) or national classification and IPC.

IPC7 H04M 1/23

Applicant

TIMESPACE SYSTEM CO., LTD. et al

1. .This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36..

2. This REPORT consists of a total of _____3_____ sheets, including this cover sheet.

   [X] This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of _____16_____ sheets.

3. This report contains indications relating to the following items:

   I   [X] Basis of the report

   II [ ] Priority

   III [ ] Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

   IV [ ] Lack of unity of invention

   V   [X] Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

   VI [ ] Certain documents cited

   VII [ ] Certain defects in the international application

   VIII[ ] Certain observations on the international application

Date of submission of the demamd	Date of completion of this report
27 MAY 2004 (27.05.2004)	13 JANUARY 2005 (13.01.2005)

Name and mailing address of the IPEA/KR	Authorized officer
Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	SHIN, Jun Ho Telephone No. 82-42-481-8129

Form PCT/IPEA/409 (cover sheet) (July 1998)

I. Basis of the report

1. With regard to the elements of the international application:*

☐ the international application as originally filed

☒ the description:
pages __1-13 15-17__ , as originally filed
pages __14__ , filed with the demand
pages _____ , filed with the letter of _____

☒ the claims:
pages _____ , as originally filed
pages _____ , as amended (together with any statment) under Article 19
pages _____ , filed with the demand
pages __18-32__ , filed with the letter of __13.12.2003__

☒ the drawings:
pages __1/6 - 6/6__ , as originally filed
pages _____ , filed with the demand
pages _____ , filed with the letter of _____

☐ the sequence listing part of the description:
pages _____ , as originally filed
pages _____ , filed with the demand
pages _____ , filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language __English__ which is

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☒ the language of publication of the international application(under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination(under Rules 55.2 and/ or 55.3).

3. With regard to any **nucleotide** and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained inthe international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disc losure in the international applicationas as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☒ the claims, Nos. __3, 4, 11, 12__

☐ the drawings, sheets _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box(Rule 70.2(c)).**

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* *Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed." and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).*

** *Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.*

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Claims	1, 2, 5-10, 13, 14		YES
Claims	NONE		NO

Inventive step (IS)

Claims	1, 2, 5-10, 13, 14		YES
Claims	NONE		NO

Industrial applicability (IA)

Claims	1, 2, 5-10, 13, 14		YES
Claims	NONE		NO

2. Citations and explanations (Rule 70.7)

1. NOVELTY AND INVENTIVE STEP

Reference is made to the following documents

D1 : KR 2001-54288 A (2 July 2001)
D2 : KR 2002-55883 A (10 July 2002)

D1 discloses a character input device using basic sentence patterns. The device is composed of a basic sentence pattern input part, a character recognition part and a character output part.

D2 discloses a keyboard unit which includes each input key for separating a grapheme as 10 basic sentences used in consonants and vowels of Hangul and alphabets of English in common and inputting each basic sentence. A character recognizing unit has a phoneme combining module for combining electric signals generated by the click of input keys of the keyboard unit, recognizing the combined electric signal as one basic phoneme through a phoneme recognizing unit, combining the recognized basic phonemes, and generating a syllable.

The subject matter of claim 1 differs from D1 and D2 in the shape of extracted basic figures which are marked on the keypad. Some of the extracted basic figures in claim 1 comprise solid lines and dot lines, which make it easy to input "B", "D", "P", "V", "U", "X", "J", "Z". Therefore, the subject matter of claim 1 is considered to have novelty and an inventive step.

Claim 10 relates to a method using the apparatus of claim 1. Therefore claim 10 is considered to have novelty and an inventive step.

Since claims 2,5-9,13,14 are dependant claims, they are also considered to have novelty and an inventive step.

2. INDUSTRIAL APPLICABILITY

The subject matter of claims 1,2,5-10,13,14 is considered to be industrially applicable.

(i.e., if the input key 8 are successively pressed twice), the alphabet capital letter "O" is coded by the basic figure O. If the input key 3 and the input key 3 are sequentially pressed (i.e., if the input key 3 are successively pressed twice), the alphabet capital letter "O" is coded by

5   the basic figure P. If the input key 8 and the input key 7 are sequentially pressed (i.e., by the combination of the basic figures O and $\backslash$), the alphabet capital letter "Q" is coded. If the input key 3 and the input key 7 are sequentially pressed (i.e., by the combination of the basic figures P and $\backslash$), the alphabet capital letter "R" is coded. If the input key 4 and

10   the input key 6 are sequentially pressed (i.e., by the combination of the basic figures C and $\supset$), the alphabet capital letter "S" is coded. If the input key 2 and the input key 5 are sequentially pressed (i.e., by the combination of the basic figures $-$ and I), the alphabet capital letter "T" is coded. If the input key 8 and the input key 5 are sequentially

15   pressed (i.e., by the combination of the basic figures O and I), the alphabet capital letter "U" is coded. If the input key 7 and the input key 9 are sequentially pressed (i.e., by the combination of the basic figures $\backslash$ and Z), the alphabet capital letter "V" is coded. If the input key 7 and the input key 1 are sequentially pressed (i.e., by the combination of the

20   basic figures $\backslash$ and N), the alphabet capital letter "W" is coded. If the input key 9 and the input key 7 are sequentially pressed (i.e., by the combination of the basic figures Z and $\backslash$) or if the input key 9 and the input key 7 are sequentially pressed (i.e., by the combination of the basic figures $\supset$ and C), the alphabet capital letter "X" is coded. If the input

25   key 7 and the input key 0 are sequentially pressed (i.e., by the combination of the basic figures $\backslash$ and J) or if the input key 8 and the input key 0 are sequentially pressed (i.e., by the combination of the basic figures O and J), the alphabet capital letter "Y" is coded. If the input

What is claimed is:

1.   An alphabet input apparatus comprising:

5   a key input part having input keys on which predetermined
number of basic figures extracted by analyzing shapes of alphabet
capital letters are engraved;

a database part for storing alphabet information coded by a
combination of two input key code values sequentially generated by the
10   key input part; and

a character determination part for, when a code value is received
from the key input part, sequentially extracting respective two input key
code values to determine an alphabet corresponding to a permutation of
the extracted code values from the alphabet information stored in the
15   database part.

2.   The alphabet input apparatus of claim 1, further comprising
a character display part for displaying an alphabet determined at the
character determination part.

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3.   The alphabet input apparatus of claim 1, wherein the key
input part has 10 input keys.

4.   The alphabet input apparatus of claim 3, wherein the basic
25   figures allocated to the 10 input keys are N, $-$, P, C, I, $⊃$, $\backslash$, O,
Z, and J.

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5.   The alphabet input apparatus of claim 4, wherein the database part stores information:

coding an alphabet capital letter "A" by a permutation of code values N and $-$;

5   coding an alphabet capital letter "B" by a permutation of code values P and $\supset$;

coding an alphabet capital letter "C" by a permutation of code values C and C;

coding an alphabet capital letter "D" by a permutation of code 10   values I and $\supset$;

coding an alphabet capital letter "E" by a permutation of code values C and $-$;

coding an alphabet capital letter "F" by a permutation of code values $-$ and P;

15   coding an alphabet capital letter "G" by a permutation of code values C and J;

· coding an alphabet capital letter "H" by a permutation of code values P and I;

coding an alphabet capital letter "I" by a permutation of code 20   values I and I;

coding an alphabet capital letter "J" by a permutation of code values J and J;

coding an alphabet capital letter "K" by a permutation of code values I and C;

25   coding an alphabet capital letter "L" by a permutation of code values I and $-$;

coding an alphabet capital letter "M" by a permutation of code

values N and $\backslash$;

coding an alphabet capital letter "N" by a permutation of code values N and N;

coding an alphabet capital letter "O" by a permutation of code

5　　values O and O;

coding an alphabet capital letter "P" by a permutation of code values P and P;

coding an alphabet capital letter "Q" by a permutation of code values O and $\backslash$;

10　　coding an alphabet capital letter "R" by a permutation of code values P and $\backslash$;

coding an alphabet capital letter "S" by a permutation of code values C and $\supset$;

coding an alphabet capital letter "T" by a permutation of code

15　　values $-$ and I;

coding an alphabet capital letter "U" by a permutation of code values O and I;

coding an alphabet capital letter "V" by a permutation of code values $\backslash$ and Z;

20　　coding an alphabet capital letter "W" by a permutation of code values $\backslash$ and N;

coding an alphabet capital letter "X" by a permutation of code values Z and $\backslash$ or a permutation of code values $\supset$ and C;

coding an alphabet capital letter "Y" by a permutation of code

25　　values $\backslash$ and J or a permutation of code values O and J; and

coding an alphabet capital letter "Z" by a permutation of code values Z and Z.

6.   The alphabet input apparatus of claim 4, wherein the database part stores information:

coding an alphabet small letter "a" by a permutation of code values C and $\backslash$;

5   coding an alphabet small letter "b" by a permutation of code values I and $\supset$;

coding an alphabet small letter "c" by a permutation of code values C and C;

coding an alphabet small letter "d" by a permutation of code
10   values C and I;

coding an alphabet small letter "e" by a permutation of code values $-$ and C;

coding an alphabet small letter "f" by a permutation of code values Z and $-$ or a permutation of code values J and $-$;

15   coding an alphabet small letter "g" by a permutation of code values C and J;

coding an alphabet small letter "h" by a permutation of code values P and I;

coding an alphabet small letter "i" by a permutation of code
20   values I and I;

coding an alphabet small letter "j" by a permutation of code values J and J;

coding an alphabet small letter "k" by a permutation of code values I and C or a permutation of code values P and $\backslash$;

25   coding an alphabet small letter "l" by a permutation of code values J and $\backslash$;

coding an alphabet small letter "m" by a permutation of code

values N and I or a permutation of code values N and $\backslash$;

coding an alphabet small letter "n" by a permutation of code values N and N or a permutation of code values I and N ;

coding an alphabet small letter "o" by a permutation of code values O and O ;

coding an alphabet small letter "p" by a permutation of code values P and P ;

coding an alphabet small letter "q" by a permutation of code values C and Z ;

coding an alphabet small letter "r" by a permutation of code values I and Z ;

coding an alphabet small letter "s" by a permutation of code values C and $\supset$;

coding an alphabet small letter "t" by a permutation of code values $-$ and I ;

coding an alphabet small letter "u" by a permutation of code values O and I ;

coding an alphabet small letter "v" by a permutation of code values $\backslash$ and Z or a permutation of code values O and $-$;

coding an alphabet small letter "w" by a permutation of code values $\backslash$ and N ;

coding an alphabet small letter "x" by a permutation of code values Z and $\backslash$ or a permutation of code values $\supset$ and C ;

coding an alphabet small letter "y" by a permutation of code values $\backslash$ and J or a permutation of code values O and J ; and

coding an alphabet small letter "z" by a permutation of code values Z and Z .

7.   The alphabet input method of claim 1, wherein the key input part further includes a shift key for shifting a capital letter to a small letter.

5   8.   The alphabet input apparatus of claim 8, wherein the basic figures allocated to the input keys are N, $-$, P, C, I, $\supset$, $\setminus$, O, Z, and J.

9.   The alphabet input apparatus of claim 8, wherein the

10   database part stores information:

coding an alphabet capital letter "A" by a permutation of code values N and $-$;

coding an alphabet capital letter "B" by a permutation of code values P and $\supset$;

15   coding an alphabet capital letter "C" by a permutation of code values C and C;

coding an alphabet capital letter "D" by a permutation of code values I and $\supset$;

coding an alphabet capital letter "E" by a permutation of code

20   values C and $-$;

coding an alphabet capital letter "F" by a permutation of code values $-$ and P;

coding an alphabet capital letter "G" by a permutation of code values C and J;

25   coding an alphabet capital letter "H" by a permutation of code values P and I;

coding an alphabet capital letter "I" by a permutation of code

values I and I ;

coding an alphabet capital letter "J" by a permutation of code values J and J ;

coding an alphabet capital letter "K" by a permutation of code
5   values I and C ;

coding an alphabet capital letter "L" by a permutation of code values I and $^-$;

coding an alphabet capital letter "M" by a permutation of code values N and $\backslash$;

10   coding an alphabet capital letter "N" by a permutation of code values N and N ;

coding an alphabet capital letter "O" by a permutation of code values O and O ;

coding an alphabet capital letter "P" by a permutation of code
15   values P and P ;

coding an alphabet capital letter "Q" by a permutation of code values O and $\backslash$;

coding an alphabet capital letter "R" by a permutation of code values P and $\backslash$;

20   coding an alphabet capital letter "S" by a permutation of code values C and $\supset$;

coding an alphabet capital letter "T" by a permutation of code values $^-$ and I ;

coding an alphabet capital letter "U" by a permutation of code
25   values O and I ;

coding an alphabet capital letter "V" by a permutation of code values $\backslash$ and Z ;

coding an alphabet capital letter "W" by a permutation of code values $\setminus$ and N;

coding an alphabet capital letter "X" by a permutation of code values Z and $\setminus$ or a permutation of code values $\supset$ and C;

5   coding an alphabet capital letter "Y" by a permutation of code values $\setminus$ and J or a permutation of code values O and J; and

coding an alphabet capital letter "Z" by a permutation of code values Z and Z,

and stores information:

10   coding an alphabet small letter "a" by a permutation of code values C and $\setminus$;

coding an alphabet small letter "b" by a permutation of code values I and $\supset$;

coding an alphabet small letter "c" by a permutation of code

15   values C and C;

coding an alphabet small letter "d" by a permutation of code values C and I;

coding an alphabet small letter "e" by a permutation of code values $-$ and C;

20   coding an alphabet small letter "f" by a permutation of code values Z and $-$ or a permutation of code values J and $-$;

coding an alphabet small letter "g" by a permutation of code values C and J;

coding an alphabet small letter "h" by a permutation of code

25   values P and I;

coding an alphabet small letter "i" by a permutation of code values I and I;

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coding an alphabet small letter "j" by a permutation of code values J and J;

coding an alphabet small letter "k" by a permutation of code values I and C or a permutation of code values P and $\seardefault$;

5   coding an alphabet small letter "l" by a permutation of code values J and $\setminus$;

coding an alphabet small letter "m" by a permutation of code values N and I or a permutation of code values N and $\setminus$;

coding an alphabet small letter "n" by a permutation of code

10   values N and N or a permutation of code values I and N;

coding an alphabet small letter "o" by a permutation of code values O and O;

coding an alphabet small letter "p" by a permutation of code values P and P;

15   coding an alphabet small letter "q" by a permutation of code values C and Z;

coding an alphabet small letter "r" by a permutation of code values I and Z;

coding an alphabet small letter "s" by a permutation of code

20   values C and $\supset$;

coding an alphabet small letter "t" by a permutation of code values $-$ and I;

coding an alphabet small letter "u" by a permutation of code values O and I;

25   coding an alphabet small letter "v" by a permutation of code values $\setminus$ and Z or a permutation of code values O and $-$;

coding an alphabet small letter "w" by a permutation of code

values $\diagdown$ and N;

coding an alphabet small letter "x" by a permutation of code values Z and $\diagdown$ or a permutation of code values $\supset$ and C;

coding an alphabet small letter "y" by a permutation of code values $\diagdown$ and J or a permutation of code values O and J; and

coding an alphabet small letter "z" by a permutation of code values Z and Z,

wherein one of the capital latter coding information and the small letter coding information is selected by a shift key code value generated by the shift key.

10. An alphabet input method comprising:

generating first and second input key code values from input keys to which predetermined number of basic figures extracted by analyzing shapes of alphabet capital letters are allocated, respectively;

setting a generation order of the two input key code values by a permutation of an input key code value; and

determining an alphabet corresponding to a permutation of an input key code value generated from the input keys by reference to alphabet information coded by the permutation of the two input key code values.

11. The alphabet input method of claim 10, wherein the key input part has 10 input keys.

12. The alphabet input method of claim 11, wherein the basic figures allocated to the 10 input keys are N, $-$, P, C, I, $\supset$, $\diagdown$, O,

and Z.

13.   The alphabet input method of claim 12, wherein the database part stores information:

5   coding an alphabet capital letter "A" by a permutation of code values N and $^-$;

coding an alphabet capital letter "B" by a permutation of code values P and $\supset$;

coding an alphabet capital letter "C" by a permutation of code
10   values C and C;

coding an alphabet capital letter "D" by a permutation of code values I and $\supset$;

coding an alphabet capital letter "E" by a permutation of code values C and $^-$;

15   coding an alphabet capital letter "F" by a permutation of code values $^-$ and P;

coding an alphabet capital letter "G" by a permutation of code values C and J;

coding an alphabet capital letter "H" by a permutation of code
20   values P and I;

coding an alphabet capital letter "I" by a permutation of code values I and I;

coding an alphabet capital letter "J" by a permutation of code values J and J;

25   coding an alphabet capital letter "K" by a permutation of code values I and C;

coding an alphabet capital letter "L" by a permutation of code

values I and $^-$;

coding an alphabet capital letter "M" by a permutation of code values N and $\backslash$;

coding an alphabet capital letter "N" by a permutation of code

5 values N and N;

coding an alphabet capital letter "O" by a permutation of code values O and O;

coding an alphabet capital letter "P" by a permutation of code values P and P;

10 coding an alphabet capital letter "Q" by a permutation of code values O and $\backslash$;

coding an alphabet capital letter "R" by a permutation of code values P and $\backslash$;

coding an alphabet capital letter "S" by a permutation of code

15 values C and $\supset$;

coding an alphabet capital letter "T" by a permutation of code values $^-$ and I;

coding an alphabet capital letter "U" by a permutation of code values O and I;

20 coding an alphabet capital letter "V" by a permutation of code values $\backslash$ and Z;

coding an alphabet capital letter "W" by a permutation of code values $\backslash$ and N;

coding an alphabet capital letter "X" by a permutation of code

25 values Z and $\backslash$ or a permutation of code values $\supset$ and C;

coding an alphabet capital letter "Y" by a permutation of code values $\backslash$ and J or a permutation of code values O and J; and

·coding an alphabet capital letter "Z" by a permutation of code values $\mathbb{Z}$ and $\mathbb{Z}$.

14.   The alphabet input method of claim 12, wherein the

5   database part stores information:

coding an alphabet small letter "a" by a permutation of code values C and $\backslash$;

coding an alphabet small letter "b" by a permutation of code values I and $\supset$;

10   coding an alphabet small letter "c" by a permutation of code values C and C;

coding an alphabet small letter "d" by a permutation of code values C and I;

coding an alphabet small letter "e" by a permutation of code

15   values $^{-}$ and C;

coding an alphabet small letter "f" by a permutation of code values $\mathbb{Z}$ and $^{-}$ or a permutation of code values J and $^{-}$;

coding an alphabet small letter "g" by a permutation of code values C and J;

20   coding an alphabet small letter "h" by a permutation of code values P and I;

coding an alphabet small letter "i" by a permutation of code values I and I;

coding an alphabet small letter "j" by a permutation of code

25   values J and J;

coding an alphabet small letter "k" by a permutation of code values I and C or a permutation of code values P and $\backslash$;

coding an alphabet small letter "l" by a permutation of code values J and $\setminus$;

coding an alphabet small letter "m" by a permutation of code values N and I or a permutation of code values N and $\setminus$;

5   coding an alphabet small letter "n" by a permutation of code values N and N or a permutation of code values I and N;

coding an alphabet small letter "o" by a permutation of code values O and O;

coding an alphabet small letter "p" by a permutation of code values P and P;

10   coding an alphabet small letter "q" by a permutation of code values C and Z;

coding an alphabet small letter "r" by a permutation of code values I and Z;

15   coding an alphabet small letter "s" by a permutation of code values C and $\supset$;

coding an alphabet small letter "t" by a permutation of code values $-$ and I;

coding an alphabet small letter "u" by a permutation of code 20   values O and I;

coding an alphabet small letter "v" by a permutation of code values $\setminus$ and Z or a permutation of code values O and $-$;

coding an alphabet small letter "w" by a permutation of code values $\setminus$ and N;

25   coding an alphabet small letter "x" by a permutation of code values Z and $\setminus$ or a permutation of code values $\supset$ and C;

coding an alphabet small letter "y" by a permutation of code

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values $\diagdown$ and J or a permutation of code values O and J; and

coding an alphabet small letter "z" by a permutation of code values Z and Z.